



Evidence-based Programs: From “lists” to Public Health Impact



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Blueprints Conference
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Progress in Type 1 Prevention Science

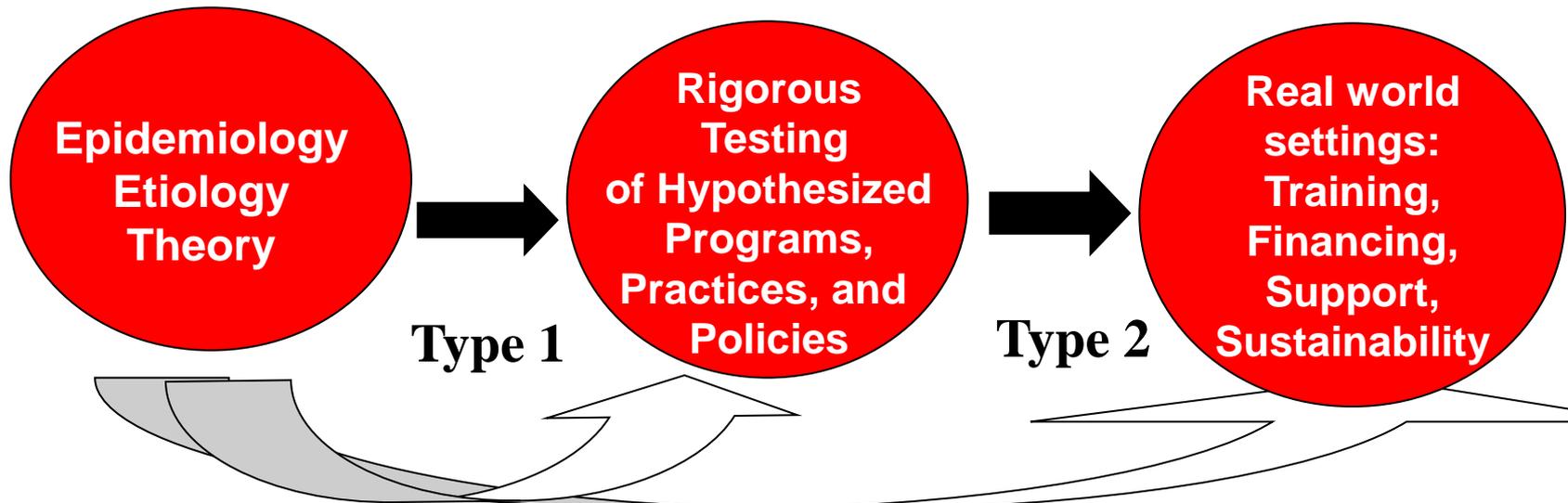
- Advances in our knowledge of epidemiology, etiology, methodology, and prevention practice
- Development and efficacy testing of a wide variety of preventive interventions
- Growing and widely-accepted “lists” of efficacious programs

We now have a number of lists of proven-effective prevention and intervention programs

- Effectiveness demonstrated in rigorous scientific evaluations (randomized controlled trials)
- Large longitudinal studies or multiple replications (results that are generalizable)
- Significant effects on aggression, youth violence, delinquency, substance use, school failure

These evidence-based programs give us great confidence that if implemented well they will be effective at promoting better youth outcomes

Translational Research Perspective



Moving prevention science to community-level public health impact



If you build it, they will come!

“If you build it”

...they may never know about it

...they may not understand what it is

...they won't know how to get there

...they won't think it fits

...they'll think they already have it

...they'll see it as competition

...they'll decide they should build their own

...they'll adapt it into something unrecognizable

...they'll only use the pieces of it they like

OR

...they will come, and love it.

Then they'll want you to make ten more just like it in surrounding communities. Now.

From Lists to Improved Public Health: Barriers

- Synthesis and translation of research to practice, (and practice to research)
- EBP dissemination, selection, and uptake
- Ensuring sufficient implementation quality and fidelity
- Understanding adaptation and preventing program drift
- Measuring and monitoring implementation and outcomes
- Policy, systems, and infrastructure barriers
- Coordination across multiple programs and developmentally
- Sustainability in the absence of a prevention infrastructure

Bumbarger, B. and Perkins, D. (2008). After Randomized Trials: Issues related to dissemination of evidence-based interventions. *Journal of Children's Services*, 3(2), 53-61.

Bumbarger, B., Perkins, D., and Greenberg, M. (2009). Taking Effective Prevention to Scale. In B. Doll, W. Pfohl, & J. Yoon (Eds.) *Handbook of Youth Prevention Science*. New York: Routledge.

Why don't communities see greater success in prevention?

- Chasing money rather than outcomes
- No single guiding philosophy (many separate but disconnected efforts)
- Little accountability
- The lack of good data to drive decision-making and resource allocation
- Reliance on untested (or ineffective) programs
- Poor implementation quality
- Inability to sustain programs

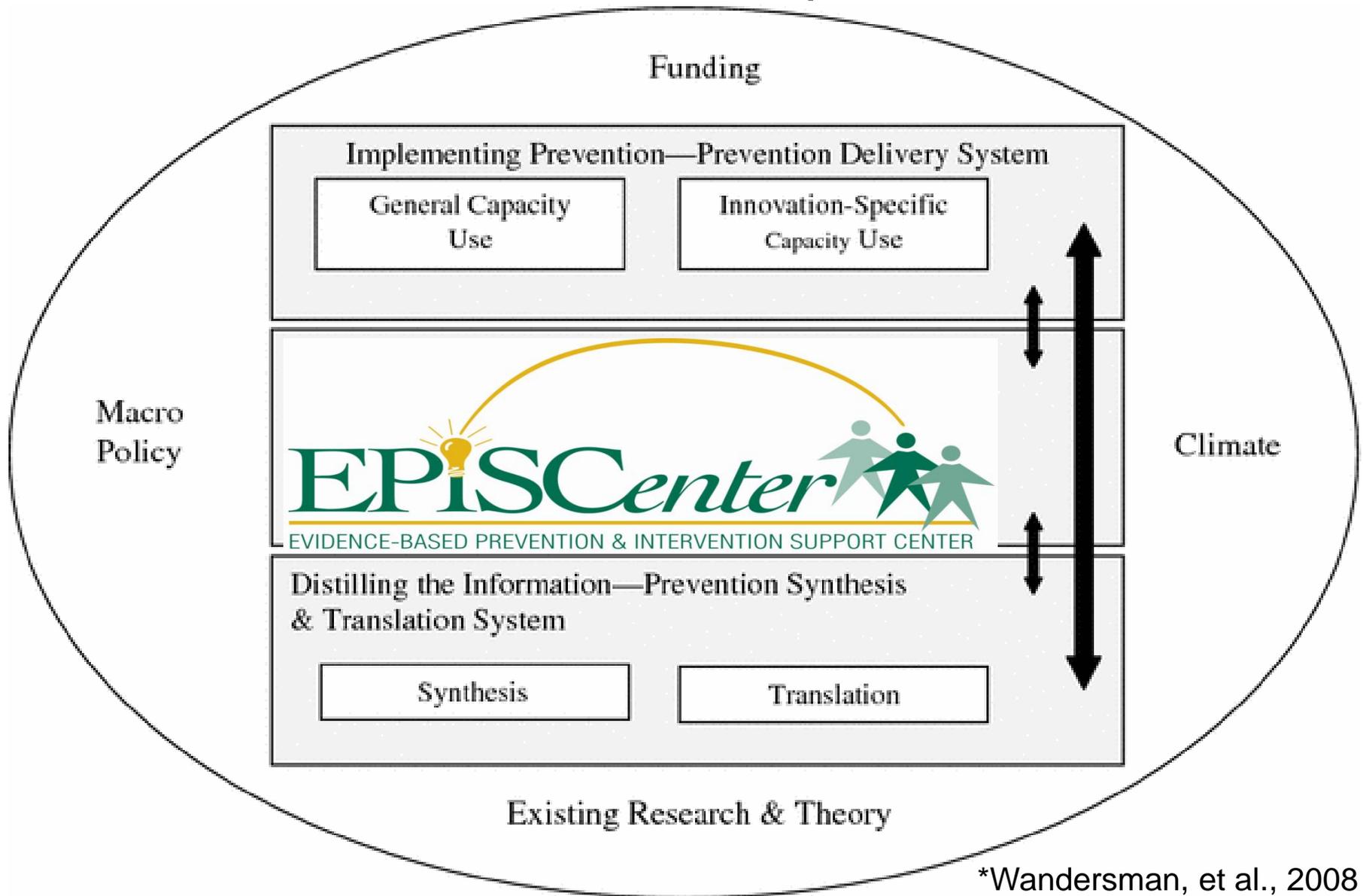
The challenges

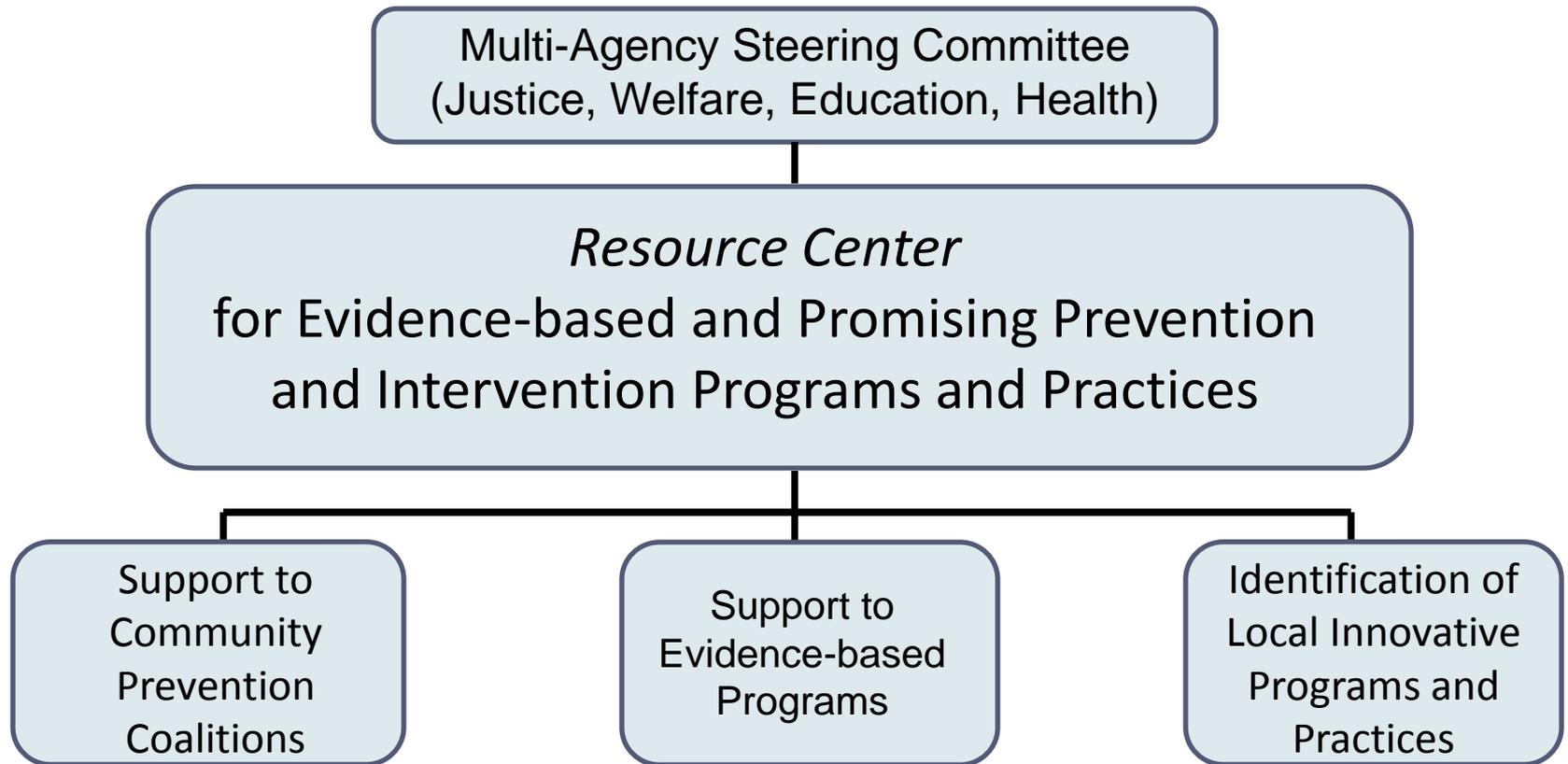
- Having community-based prevention work be more focused and strategic
- Increase (carefully planned) adoption of EBPs by more communities
- Ensure high quality implementation
- Sustain programs long-term

Bridging The Gap Between Science And Practice to Improve Outcomes

- The goal: to ensure better outcomes for children, youth, families, and communities, and to reduce the burden of expensive “deep end” services (justice, treatment, foster care, etc.)
- The strategy: creating sustained, community-wide public health impact through effective community coalitions using proven-effective programs targeted at strategically identified risk and protective factors

Interactive Systems Framework for Dissemination and Implementation





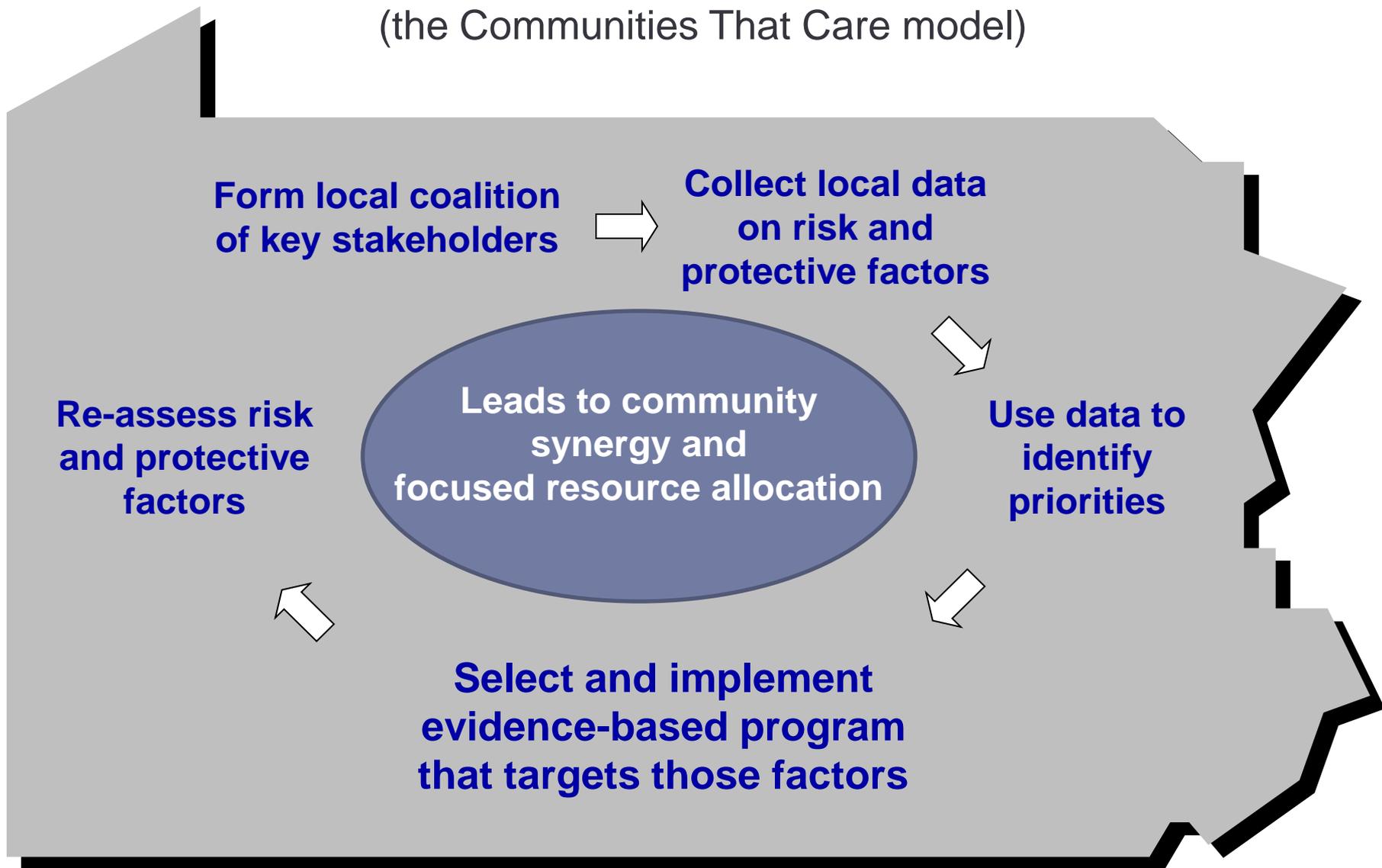
A unique partnership between policymakers, researchers, and communities to bring science to bear on issues of public health and public safety

The EPISCenter is a project of the Prevention Research Center, College of Health and Human Development, Penn State University, and is funded by the Pennsylvania Commission on Crime and Delinquency and the Pennsylvania Department of Public Welfare as a component of the Resource Center for Evidence-Based Prevention and Intervention Programs and Practices.

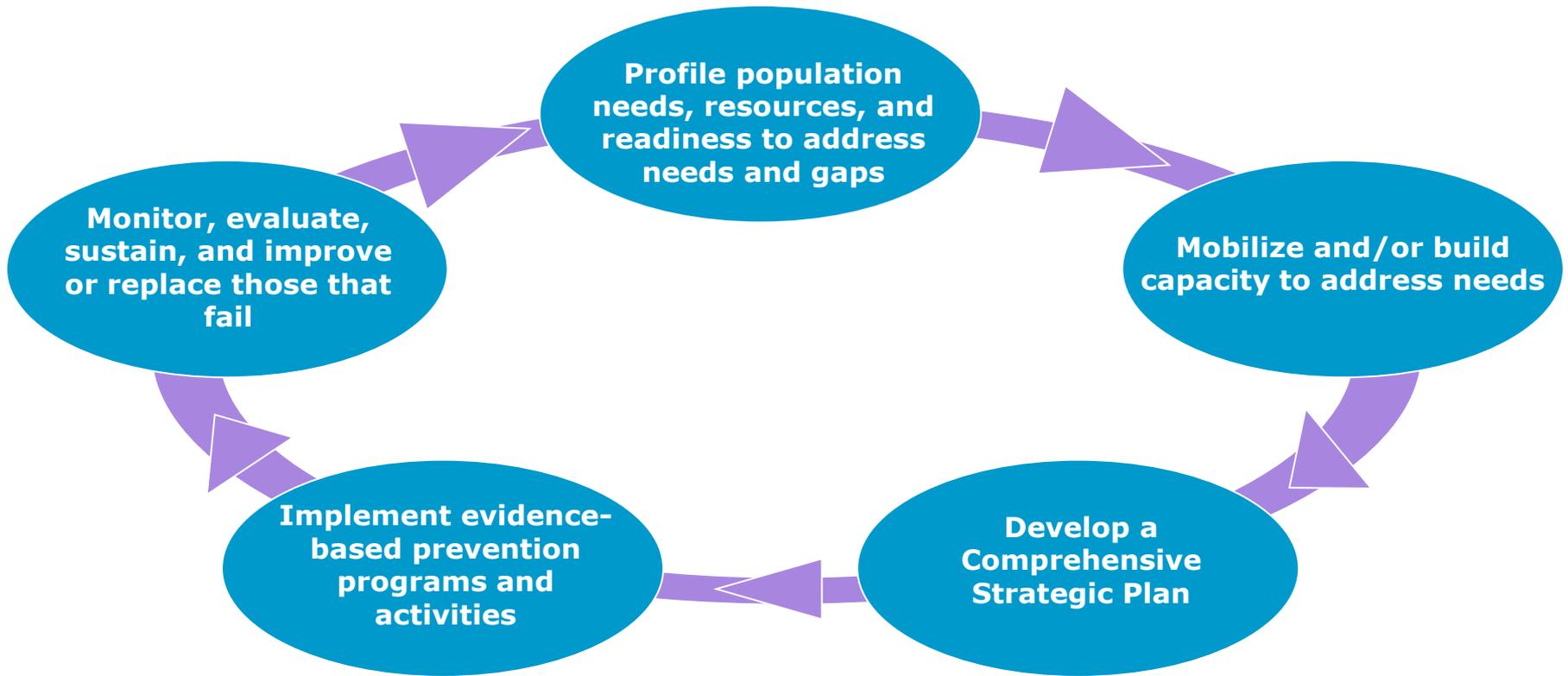
Creating Fertile Ground for EBPs

Risk-focused Prevention Planning

(the Communities That Care model)



SAMHSA's Strategic Prevention Framework Steps



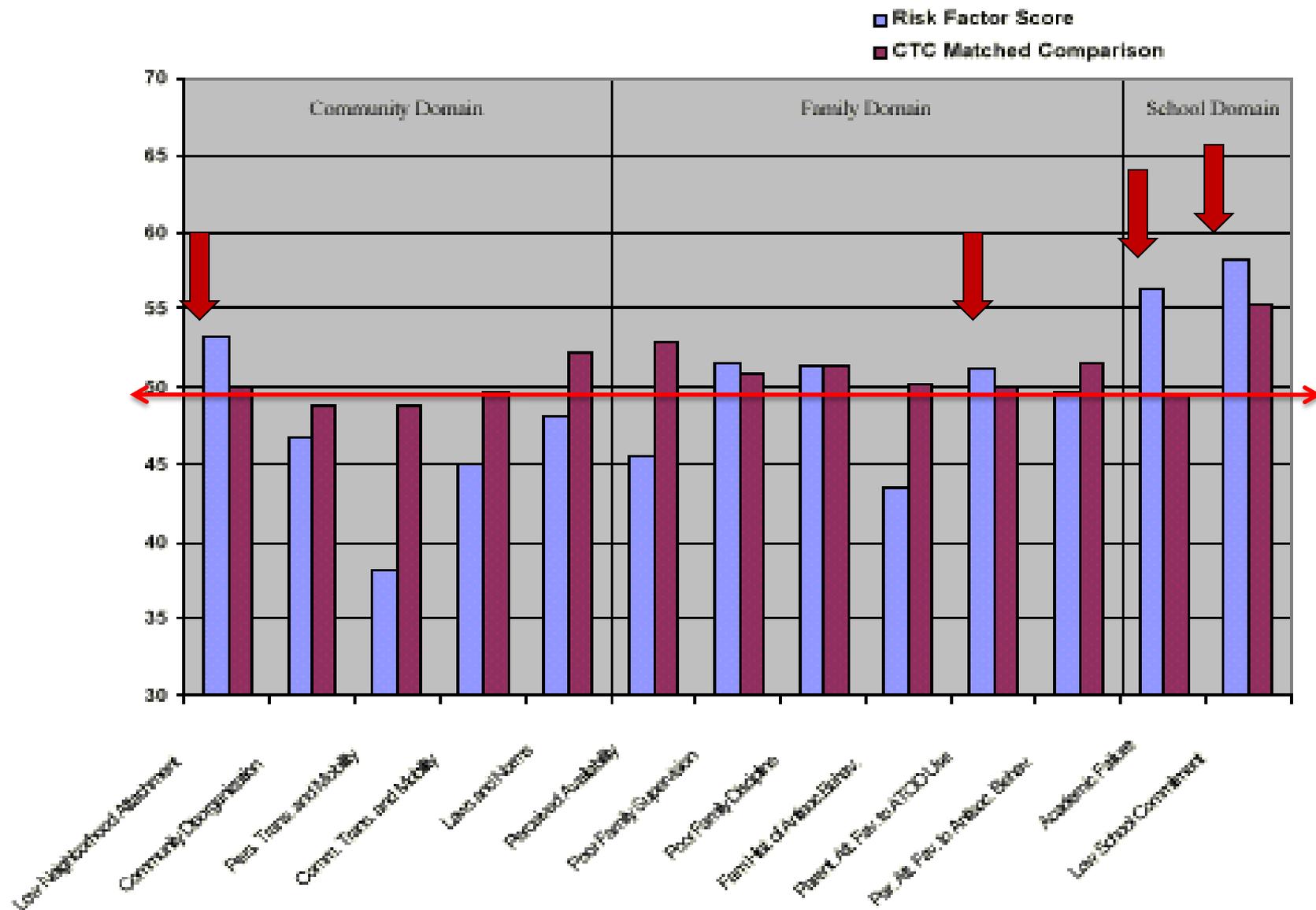
What is CTC?

- An “operating system” to mobilize communities and agency resources
- Follows a public health model of preventing poor outcomes by reducing associated risk factors and promoting protective factors
- Coalition model that is data-driven and research-based
- Follows a specific sequence of steps
- Focuses on the use of targeted resources and evidence-based prevention programs

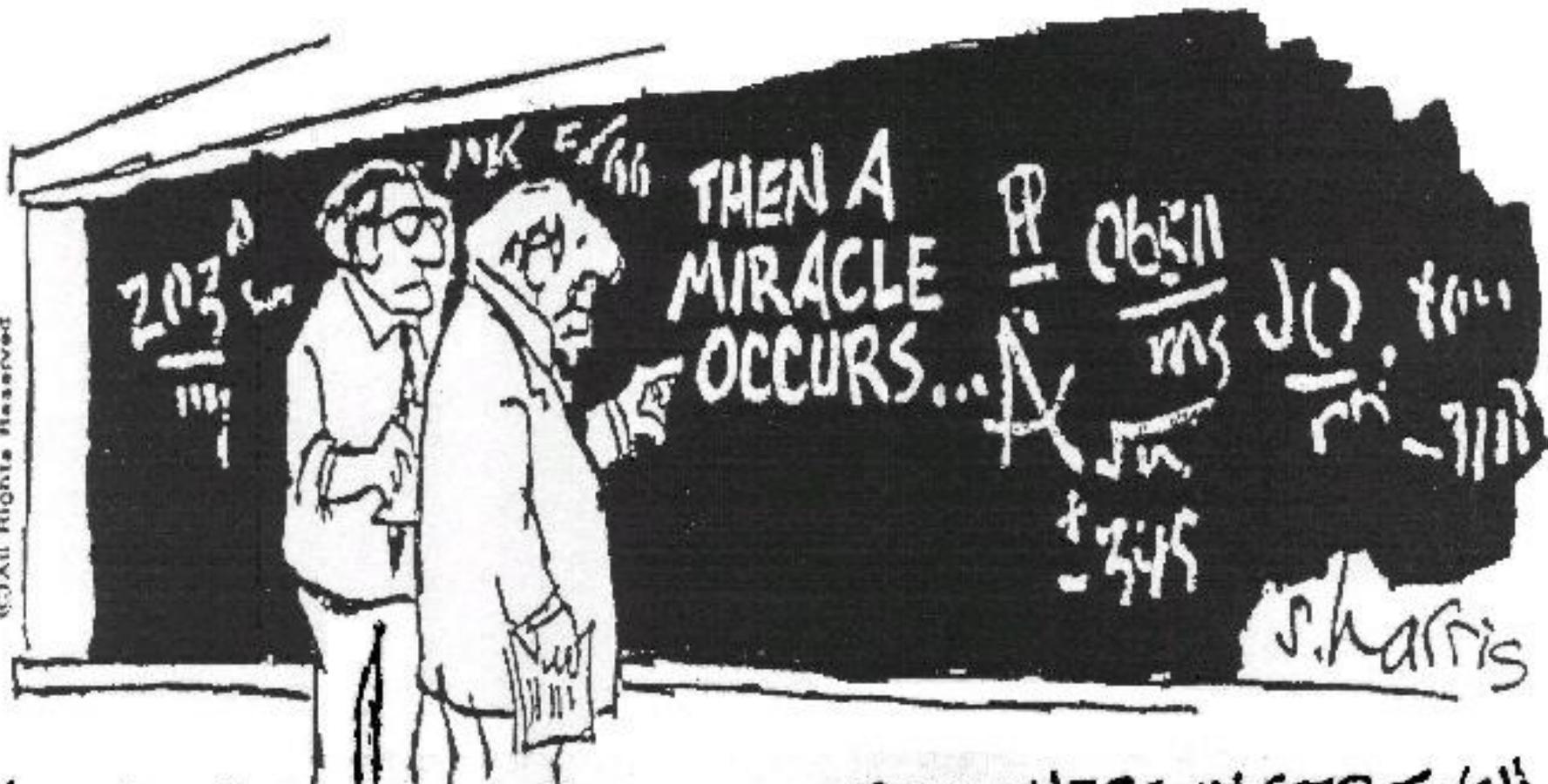
How is CTC different?

- Uses local data to set priorities and focus resources
- Starts with quantifiable goals
- Engages the whole community
- Addresses youth problems by identifying their (actual) root causes, rather than dealing with them after they occur or focusing solely on behavioral outcomes
- Involves a realistic view of adolescent development and the length of time necessary to change outcomes
- Focuses on the use of proven-effective programs (EBPs)
- Has a built-in process of assessment and accountability

Graph 7: Risk Factor Scores for Centre County: Community, Family, and School Domains.

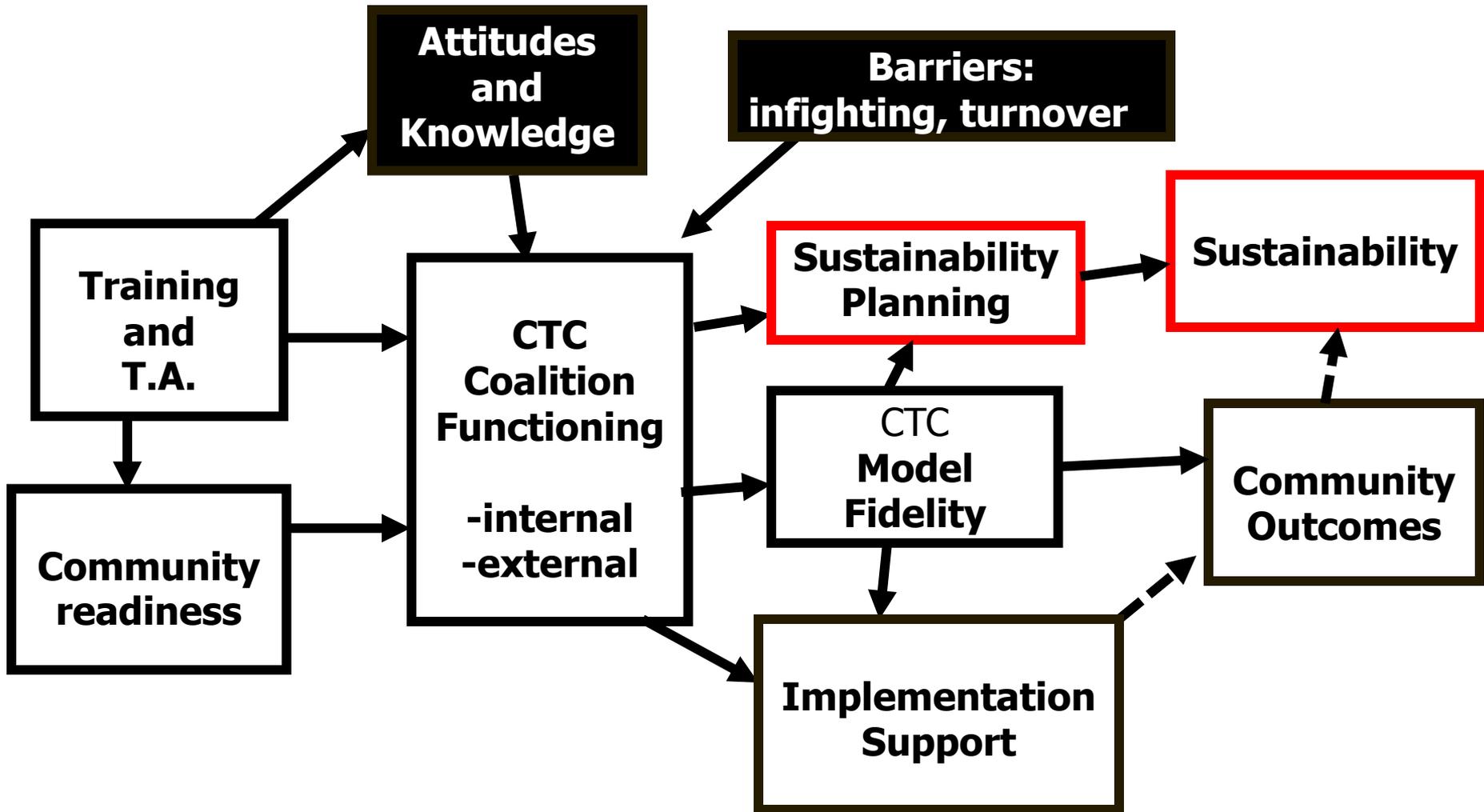


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"I THINK YOU SHOULD BE MORE EXPLICIT HERE IN STEP TWO."

PSU Model of CTC: Version 5.0





Communities That Care

Web-Based Survey

	2003	2004	2005	2006	2007	2008
# of CTC Sites	68	79	75	73	72	67
# of participants	570	867	799	929	988	946
% individual participation	-	46%	50%	60%	62%	62%

Sponsored by



CTC Research Team, Prevention Research Center

Pennsylvania State University



CTC Domains



Board Membership



Board Leadership

The areas studied in CTC Web Survey include:



Board Relationships



CTC Process

Fidelity



Barriers Experienced



Board Work Style



Programs Implemented

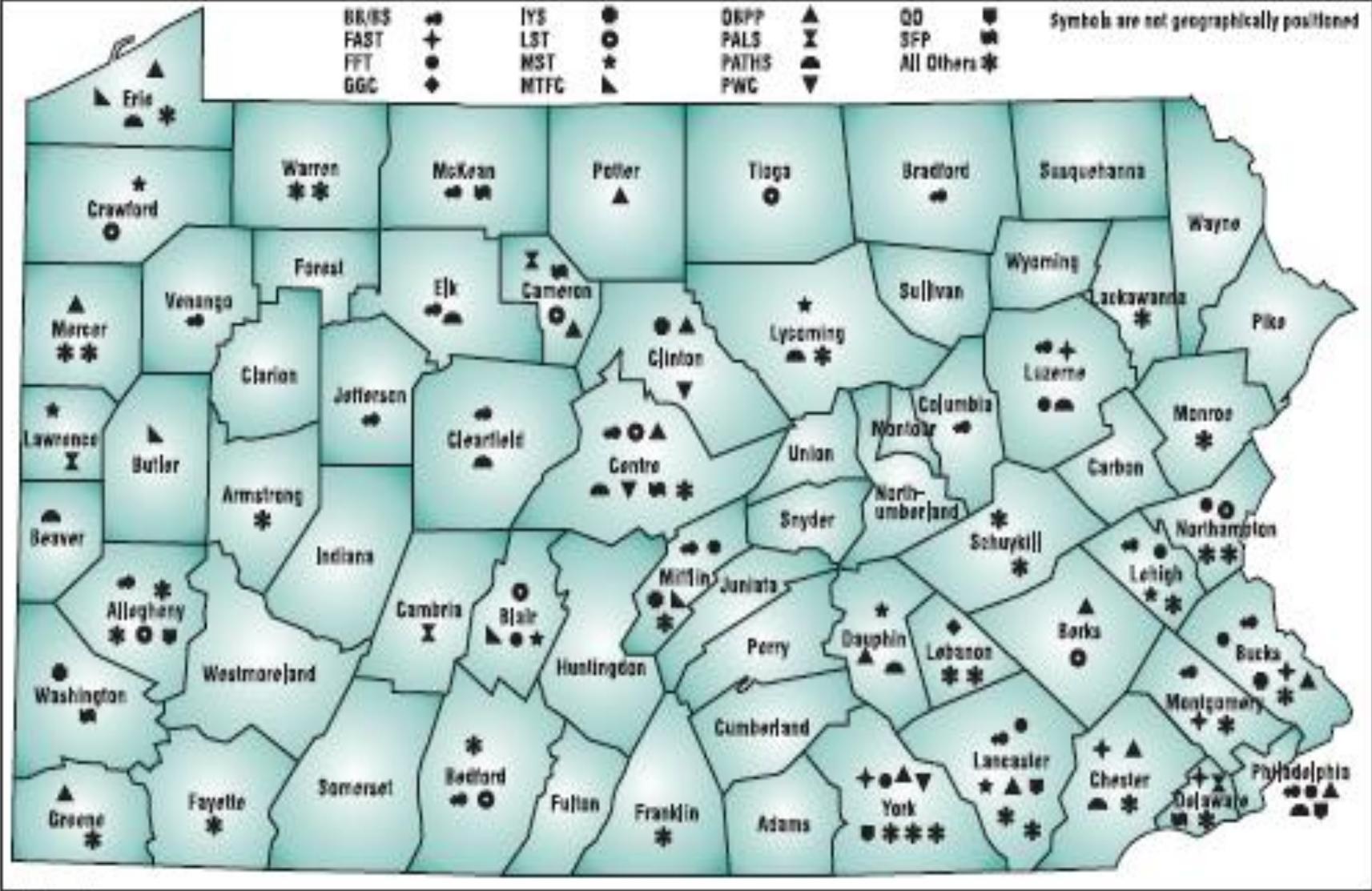
Technical Assistance



Pennsylvania's "Blueprints" Initiative

- Successor to earlier CTC initiative that promoted community coalitions/risk & resource assessments
- Nearly 200 EBP's funded since 1998 (+~200 through other sources)
- Big Brothers/Sisters, LST, SFP 10-14, PATHS, MST, FFT, MTFC, Olweus Bullying Program, TND, Incredible Years
- Strong emphasis on implementation quality & fidelity, impact assessment, and sustainability planning

Evidence-based Programs Funded Throughout Pennsylvania*



*programs funded under the EBP initiative 1998-2008

Supporting EBPs

- Onsite TA during startup phase
- Manualize implementations within context
- Create economies of scale & learning communities
- Develop tools for data collection and utilization (INSPIRE)
- Foster coordination across state agencies
- Develop and test new models for training, coaching, adaptation, and dissemination

Effective Programs

- Are based on a theory of the etiology of the outcome to be prevented
- Are based on a logic model of intervening in and changing the pathway
- Rely on implementation that does not violate that logic model (fidelity)

Why does fidelity matter?

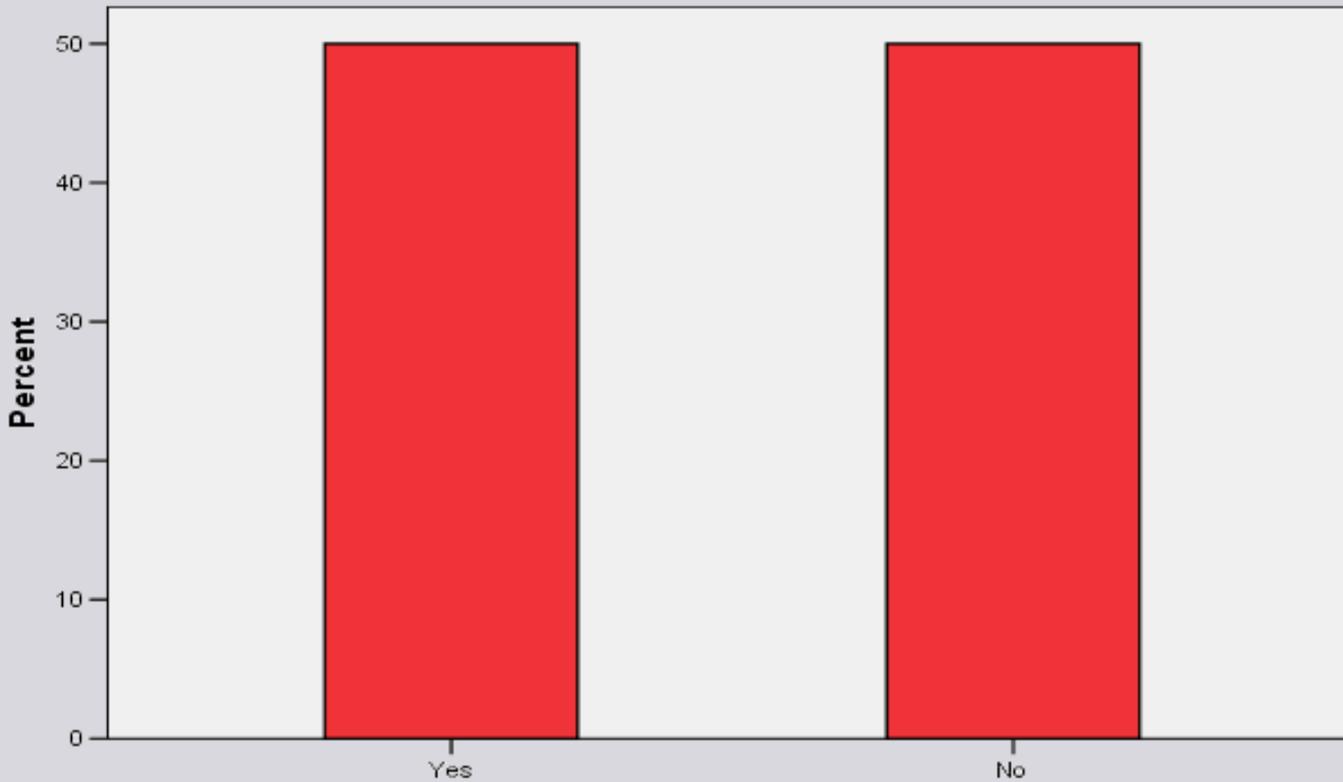
- Research has clearly linked fidelity with positive outcomes
- Higher fidelity is associated with better outcomes across a wide range of programs and practices (PATHS, MST, FFT, TND, LST and others)
- Fidelity enables us to attribute outcomes to the intervention, and provides information about program feasibility

The reality....

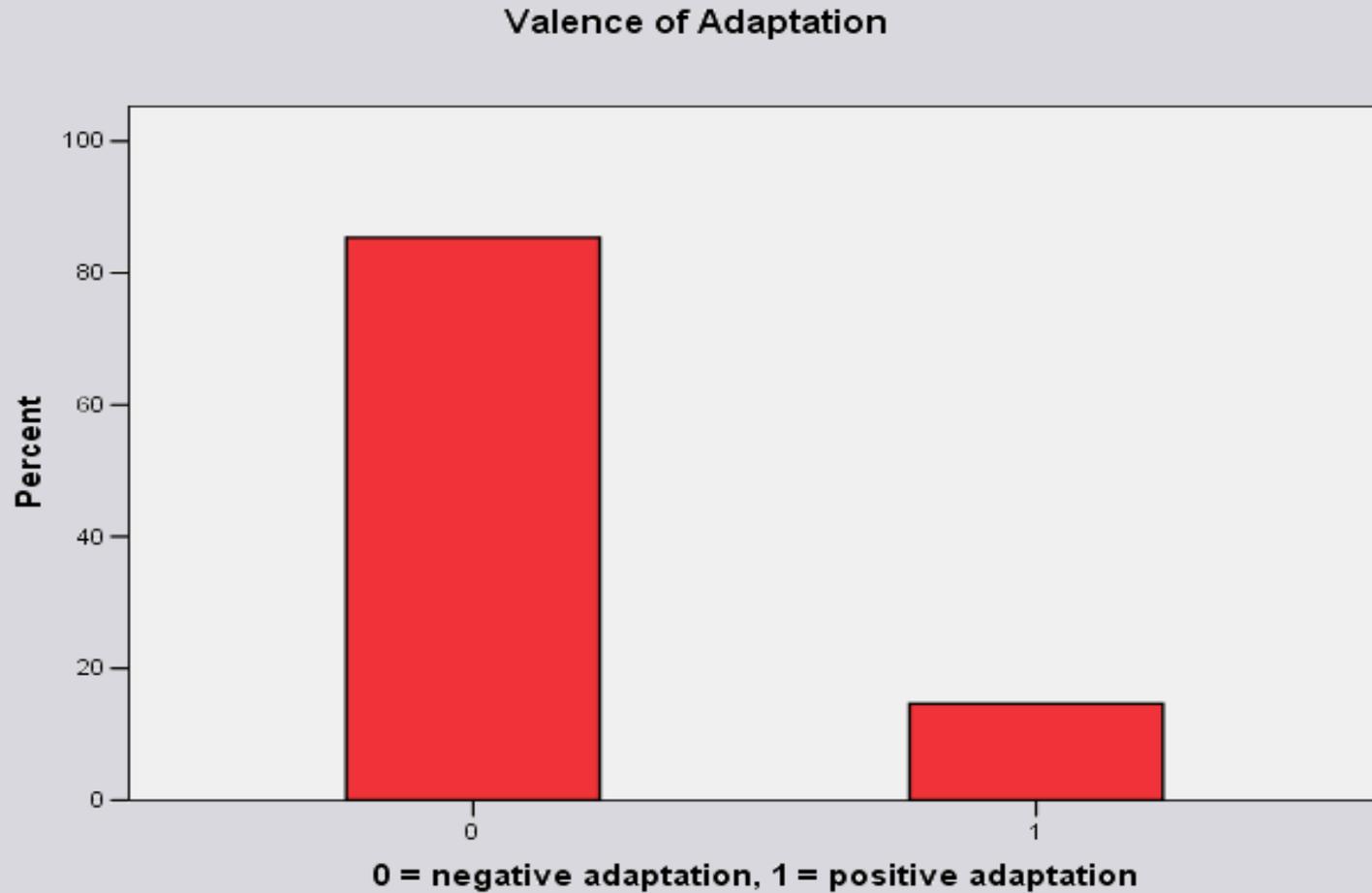
- While possible, fidelity is not a naturally occurring phenomenon – adaptation (more accurately program drift) is the default
- Most adaptation is reactive rather than proactive
- Most adaptation weakens rather than strengthens the likelihood of positive outcomes

Fidelity vs. Adaptation

Have you adapted the program or improved the model to meet local needs?



Fidelity vs. Adaptation



What Barriers Cause Adaptation?

	Classroom-based	Community/ Mentoring	Family Prevention	Family Treatment
Difficulty finding adequate staff		4	3	
Difficulty recruiting participants		1	1	1
Difficulty retaining or engaging participants	3	2	2	2
Lack of time or competing demands on time	1	3		
Need for a more culturally appropriate program	2			
Resistance or lack of support from Principal/Administrator	4			

LEEP-LST Study:

Standardized Mean Fidelity Score by Implementer

(Bumbarger & Miller, 2007)

Implementer	Mean Fidelity	N	Std. Dev	Minimum	Maximum
Police Officer Only	62.47	29	18.27	27.5	94.7
Teacher Only	65.25	13	11.81	43.4	85.1
Team Taught	72.03	12	16.62	47.8	94.3

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Improving Implementation Quality

- Good pre-implementation planning
- What gets measured matters
- Improve practitioner knowledge of basic prevention science and theory of change
- Use adaptation discussion as a tool for training on the logic model of an intervention
- Build a sustainable infrastructure for monitoring implementation quality and fidelity
- Build internal capacity and desire for CQI

It is not enough to be busy. So are the ants. The question is: What are we busy about?

Henry David Thoreau

Practical strategies

- Peer coaching, peer observation
- Schedule regular opportunities for reflective practice and de-briefing
- Never let the initial training be the only training
- Data in must ALWAYS require data out – create feedback loops and safe environments for reflection
- Foster internal competition
- Emphasize the importance of a clear understanding of a program's logic model – not just the mechanics

Measuring Population-level Impact

- Cross-sectional quasi-experimental study of 98,000 students in 147 communities
 - **Found youth in CTC communities reported lower rates of risk factors, substance use, and delinquency than youth in similar non-CTC communities**
 - **First evidence of the effectiveness of a large-scale community coalition approach**

CTC Sites versus non-CTC sites – 2003 PAYS

Risk Factors	6	8	10	12
Family Supervision	+	+	+	+
Family Discipline	+	+	+	+
Family History of Antisocial Behavior	+	+	+	+
Parental Attitudes Favorable to ATOD Use	+	+	-	+
Academic Failure	+	-	+	+
Low School Commitment	+	+	-	-
Rebelliousness	+	+	-	-
Friends' Delinquent Behavior	+	+	+	+
Friends' ATOD Use	+	+	+	+
Peer Rewards for Antisocial Behavior	+	+	+	+
Favorable Attitudes Toward Antisocial Behavior	+	+	-	+
Favorable Attitudes Toward ATOD Use	+	+	+	+
Low Perceived Risk of ATOD Use	+	+	+	+
Early Initiation of Problem Behavior	+	+	+	+
Sensation Seeking	+	+	-	-



Favors CTC sites at $p < .05$

Favors CTC sites at $p < .10$

CTC Sites With Age Appropriate Evidence-based Programs versus non-CTC sites

Risk Factors	6	8	10	12
Family Supervision	+	+	-	+
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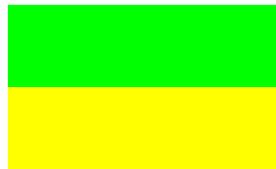


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CTC Sites versus non-CTC sites – 2003 PAYS

ATOD and Delinquency Outcomes	6	8	10	12
Past 30-day Alcohol Use	+	+	+	+
Past 30-day Cigarette Use	+	+	+	-
Past 2-week prevalence of Binge Drinking	+	+	+	+
Drunk or high at school in past year	+	-	+	+
Delinquency	+	+	+	+
Drug Use	+	+	+	+



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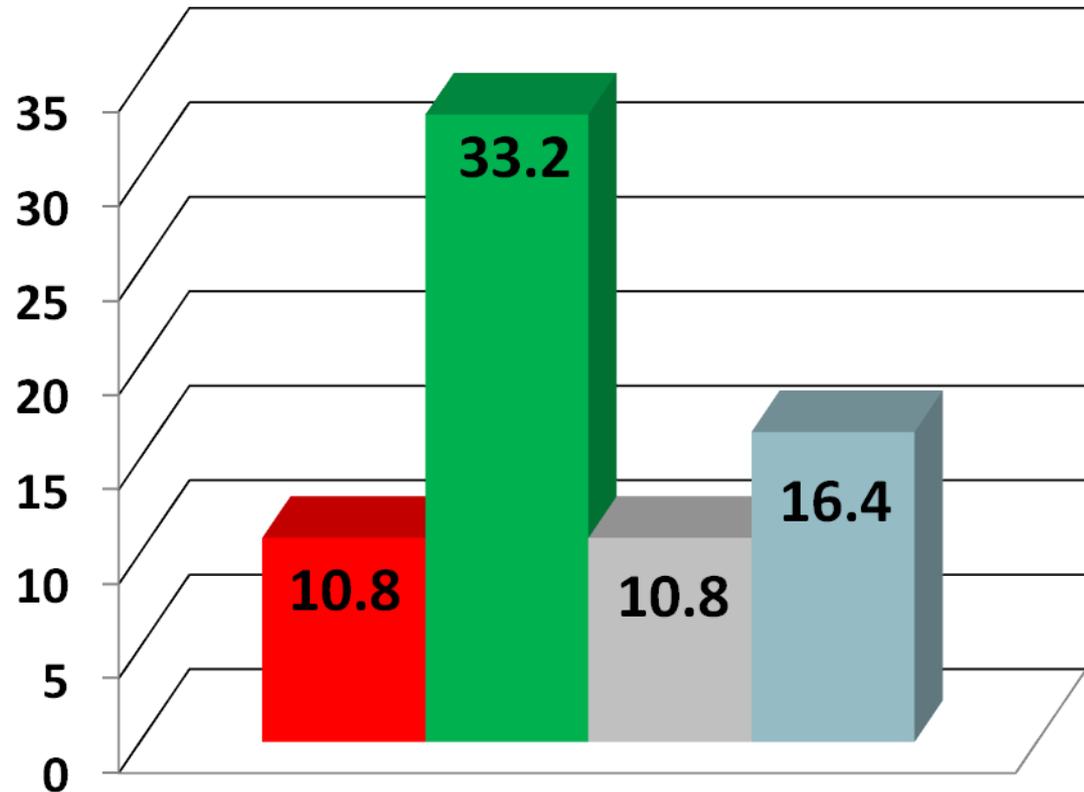
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5 year Longitudinal Study of PA Youth

% Improvement of CTC/EBP Youth Over Comparison Group



Research following 419 age-grade cohorts of youth over a 5-year period found youth in CTC communities using EBPs had significantly lower rates of delinquency and better academic achievement!

■ Delinquency

■ Academic Performance

■ < Negative Peer Influence

■ School Engagement

Summary of Findings

- **Overall, CTC communities showed lower levels of risk factors, substance abuse, and delinquency (7x as many as chance)**
- **Even greater impact where evidence-based prevention programs were used (11x)**
- **CTC community youth exposed to universal EBPs showed slower increase in risk and delinquency, and slower decrease in protection and academic grades.**

The Cost-effectiveness of Evidence-based Prevention in Pennsylvania

(measured benefits and costs per community and statewide)

Program	B-C per youth	Avg. Return/Community	# Programs Statewide	Est. Total PA Return
Big Brothers/Sisters	\$54	\$13,500	28	\$378,000
LifeSkills Training	\$808	\$161,600	100	\$16,160,000
Multi. Treatment Foster Care	\$79,331	\$475,986	3	\$1,427,958
Multisystemic Therapy	\$16,716	\$2,507,400	12	\$30,088,800
Functional Family Therapy	\$32,707	\$12,395,953	11	\$136,355,483
Nurse-Family Partnership	\$36,878	\$4,782,976	25	\$119,574,400
Strength. Families	\$6,541	\$872,133	15	\$13,082,000
TOTAL				\$317,066,641

Community Prevention Planning and Evidence-based Programs are wise investments of taxpayer resources

- Communities with EBPs embedded in the context of community mobilization/readiness strategy have lower levels of delinquency and youth drug use and better academic achievement^{*}
- EBPs produce an overall return of 5 to 25 dollars for every dollar invested – a return measured in hundreds of millions^{**}

* Feinberg, M.E., Greenberg, M.T., Osgood, W.O., Sartorius, J., Bontempo, D.E. (In Press). Can Community Coalitions Have a Population Level Impact on Adolescent Behavior Problems? CTC in Pennsylvania, Prevention Science.

** Jones, D., Bumbarger, B., Greenberg, M., Greenwood, P., and Kyler, S. (2008). The Economic Return on PCCD's Investment in Research-based Programs: A cost-benefit assessment of delinquency prevention in Pennsylvania. Prevention Research Center, Penn State University.

Improvements

- Reduced list of fundable programs based on rigor of evidence, identified needs, and capacity to support dissemination and implementation
- Targeted, proactive technical assistance to sites
- Developed logical and well-informed performance measures, and practical impact assessment tools
- Required certification of implementation quality
- Negotiated sustainable funding through MA/MCOs

Why don't communities see greater success in prevention?

- Chasing money rather than outcomes
- No single guiding philosophy (many separate but disconnected efforts)
- Little accountability
- The lack of good data to drive decision-making and resource allocation
- Reliance on untested (or ineffective) programs
- Poor implementation quality
- Inability to sustain programs

Some Lessons Learned

- **Focus on risk and protective factors rather than narrowly-defined behavioral outcomes**
- **Community-specific (i.e. local) data to drive decision making and resource allocation**
 - Single state epidemiological survey
 - Becomes community needs assessment tied to multiple agency RFPs
- **Community needs assessment and mobilization, as well as EBP implementation, requires proactive Technical Assistance**

Some Lessons Learned (cont.)

- **Fix community readiness and infrastructure issues before throwing money at problems**
- **Find a small number of things that work, and do them well**
- **Multi-year funding is necessary to get to stable effective services**
- **Tie funding to quality implementation and outcomes (objective criteria de-politicizes the process)**
- **Build in evaluation for continuous quality improvement – at every level**

Thank You!

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